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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Barbara Hoppe

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EXAMINER

LEE, REBECCA Y

ART UNIT

PAPER NUMBER

1793

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,778	Applicant(s) HOPPE ET AL.	
	Examiner REBECCA LEE	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-55 is/are pending in the application.
- 4a) Of the above claim(s) 35-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/05/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 24-34 in the reply filed on 06/29/09 is acknowledged. The traversal is on the ground(s) that new claims 52 to 55 constitute linking claims that link the claims of Groups I to IV. This is not found persuasive because as stated in the previous action, claim 24 is anticipated or obvious over the prior art. As the recited composition of claim 24 does not make a contribution over the prior art, unity is lacking and restriction is proper. Further more, claims 52 and 54 belong to group II, claim 53 belongs to Group III, and claim 55 belongs to Group IV. Since the newly added claims belong to non-elected groups, they are also withdrawn from examination.

The requirement is still deemed proper and is therefore made FINAL.

Claims 35-55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 06/29/09.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Chesnes et al. (US 20020157737).

Chesnes et al. disclose a braze (solder) alloy comprising Cr, Co, Mo, and Ni (abstract).

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Wakushima et al. (JP 63065044).

Wakushima et al. disclose a braze (solder) alloy comprising Cr, Co, Mo, and Ni (abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chesnes et al. (US 20020157737).

Chesnes et al. teach a solder alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Chesnes et al.	Overlap
Ni	63-86	50-70	63-70
Cr	5-17	8-20	8-17
Co	8-15	5-15	8-15
Mo	1-5	0-3	1-3

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Al	2-8	2-10	2-8
Ta	1-8	2-10	2-8
Pd	0.5-5	0-1	0.5-1
Hf	1-5	0-3	1-3
B	0.5-2.5	0-1	0.5-1

The amounts of Ni, Cr, Co, Mo, Al, Ta, Pd, Hf and B disclosed by Chesnes et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Pd, Hf and B of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Pd, Hf and B from the amounts disclosed by Chesnes et al. since Chesnes et al. disclose the same utility throughout the disclosed ranges.

Claims 25-27 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakushima et al. (JP 63065044).

Wakushima et al. teach a solder alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Wakushima et al.	Overlap
Ni	63-86	balance	balance
Cr	5-17	14-16	14-16
Co	8-15	9-11	9-11
Mo	1-5	4-6	4-5
Al	2-8	3-5	3-5
B	0.5-2.5	2-4	2-2.5

The amounts of Ni, Cr, Co, Mo, Al and B disclosed by Wakushima et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al and B of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of

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ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al and B from the amounts disclosed by Wakushima et al. since Wakushima et al. disclose the same utility throughout the disclosed ranges.

Claims 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845).

Shaw et al. teach an alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Shaw et al.	Overlap
Ni	63-86	Balance	balance
Cr	5-17	6-17	6-17
Co	8-15	5-20	8-15
Mo	1-5	0-15	1-5
Al	2-8	3-8	3-8
Ta	1-8	0-5	1-5
Nb	0.1-2	0-2	0.1-2
Y	0.1-1	0-0.2	0.1-0.2
Hf	1-5	0-3	1-3
B	0.5-2.5	0-0.85	0.5-0.85

The amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B disclosed by Shaw et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb, Y, Hf and B from the amounts disclosed by Shaw et al. since Shaw et al. disclose the same utility throughout the disclosed ranges.

Furthermore, even though Shaw et al. do not expressly teach the disclosed alloy can be used as a solder alloy, since the composition of the alloy disclosed by Shaw et

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al. is similar to the one claimed, one of ordinary skill in the art would have expected the alloy of Shaw et al. can also be a solder alloy as claimed.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845) in view of Chesnes et al. (US 20020157737).

Claim 33 is mostly rejected for the same reason as set forth in the rejections of claims 25-32 above.

Shaw et al. do not expressly teach the alloy further comprise palladium and silicon in the claimed amount.

Chesnes et al. teach a similar solder alloy further comprises 0-1% Pd and 0-1 % Si.

One of ordinary skill in the art would have found it obvious to further include Pd and Si as taught by Chesnes et al. into the alloy of Shaw et al. in order to obtain an improved solder alloy as taught by Chesnes et al. (section 0005).

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaw et al. (GB2153845) in view of Rabinkin et al. (US 4802933) and Wakushima et al. (JP 63065044)

Shaw et al. teach an alloy with a composition relative to that of the instant invention, in weight percent, as shown below (abstract):

Element	Instant claims	Shaw et al.	Overlap
Ni	balance	Balance	balance
Cr	9-11	6-17	9-11
Co	9-11	5-20	9-11

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Mo	3.5-4.5	0-15	3.5-4.5
Al	3.5-4.5	3-8	3.5-4.5
Ta	1.5-2.5	0-5	1.5-2.5
Nb	0.5-1.5	0-2	0.5-1.5
Y	0.1-0.5	0-0.2	0.1-0.2
Hf	3.5-4.5	0-3	No overlap

The amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y disclosed by Shaw et al. overlap the claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y of the instant invention, which is prima facie evidence of obviousness MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to have selected claimed amounts of Ni, Cr, Co, Mo, Al, Ta, Nb and Y from the amounts disclosed by Shaw et al. since Shaw et al. disclose the same utility throughout the disclosed ranges. In addition, even though the amount of Hf disclosed by Shaw et al. does not overlap the claimed range, but is close enough and a prima facie case of obviousness still exists MPEP 2144.05 I.

Shaw et al. do not expressly teach the alloy further comprises B and Pd in the claimed ranges.

It is known that nickel alloys comprising palladium, as a brazing (solder) material), exhibit high temperature strength as evidenced by the Background section of Rabinkin (Column 1, lines 22-25).

It would have been obvious to one of ordinary skill in the art to further include Pd into the alloy of Shaw et al. in order to obtain high temperature strength, good corrosion resistance and good erosion resistance as evidenced by Rabinkin (Column 1, lines 22-25). Furthermore, it is well held that discovering an optimum value of a result effective variable requires only routine skill in the art MPEP 2144.05 II. In the instant case, the

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amount of palladium in the alloy is a result effective variable since it would directly affect the mechanical properties of the alloy as evidenced by Rainkin. Therefore, one of ordinary skill in the art would have found it obvious to vary the amount of palladium in the alloy of Shaw et al. via routine optimization in order to achieve a solder alloy with desired high temperature strength, corrosion resistance and erosion resistance as taught by Rabinkin (Column 1, lines 22-25).

Wakushima et al. teach a solder alloy can further comprise 2-4% B.

It would have been obvious to one of ordinary skill in the art to further include B of 2-4% as a melting point depressant as taught by Wakushima et al. into the alloy of Shaw et al. in order prevent deterioration in strength and impact value as taught by Wakushima et al. (abstract).

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROY KING can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./
Examiner, Art Unit 1793

/Roy King/
Supervisory Patent Examiner, Art
Unit 1793